

ABSTRACT OF THE DISCLOSURE

A semiconductor integrated circuit device has a semiconductor substrate comprising a first region extending along the edge and a second region surrounded by the first region. Memory cell arrays are provided in the second region, and comprising a plurality of cells having an MTJ element. Gate transistors are provided in the first region, and have a current path having a first terminal connected with a bit line, which is a signal read path from the cells, and a second terminal opposite to the first terminal. Data buses are connected with the same number of the second terminals. A connection control circuit is provided in the second region, and connects selected two of the data buses to first and second output terminals, respectively. An amplifier circuit is provided in the first region, and amplifies a potential difference in accordance with signals outputted from the first and second output terminals.